

ATLAS 758 MAINS SUPERHET

Circuit.—The combined detector oscillator FC4 (V1), an octode, is preceded by a band-pass aerial tuner of which the first unit is an aerial transformer. Bias is controlled from the A.V.C. line and is limited by a resistance in the cathode lead.

Coupling to the I.F. valve from the H.F. pentode section is by band-pass intermediate frequency transformer (frequency 117.5 k.c.).

The I.F. valve VP4 (V2) is also biased from the A.V.C. line and by cathode resistance. Coupling to the next valve is by a similar band-pass I.F. transformer.

In the second detector valve TDD4 (V3), which is a double diode triode, one diode anode is fed from the secondary of the second I.F. transformer for L.F. purposes, and the other diode anode is coupled by a condenser to the high (H.F.) potential end of the primary of the I.F. transformer for A.V.C. purposes.

The output of one diode anode has the volume control as a load resistance and the L.F. impulses are passed on to the grid of the triode section by the coupling condenser C8. The triode section has a fixed grid leak.

The Atlas 758 4-valve plus rectifier A.C. mains superhet is made by H. Clarke & Co. (Manchester), Ltd.

Resistance-capacity filter couples the triode anode to the output valve.

For the output valve an A.C.044 (V4) directly heated triode is used. This has a grid stabilising resistance and a tone control in the anode circuit consisting of a condenser in series with a variable resistance.

Mains equipment consists of transformer, full-wave rectifier IW3 with the field coil in the positive H.T. lead for smoothing with electrolytic condensers.

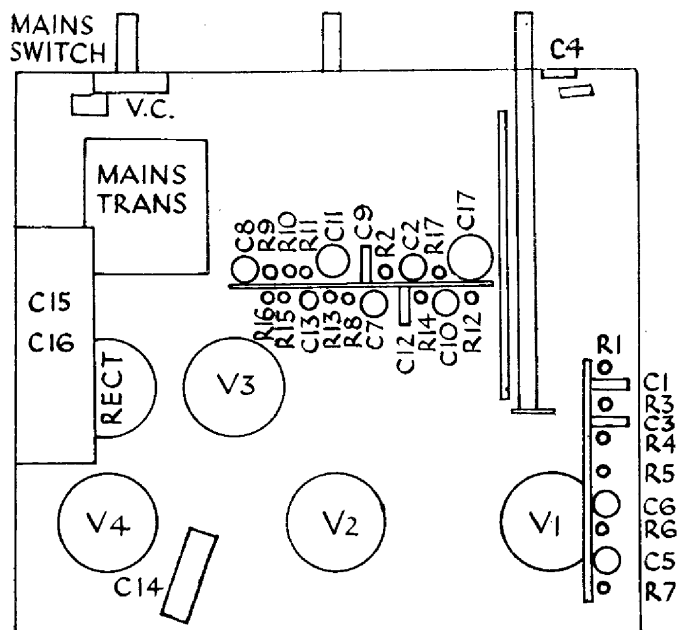
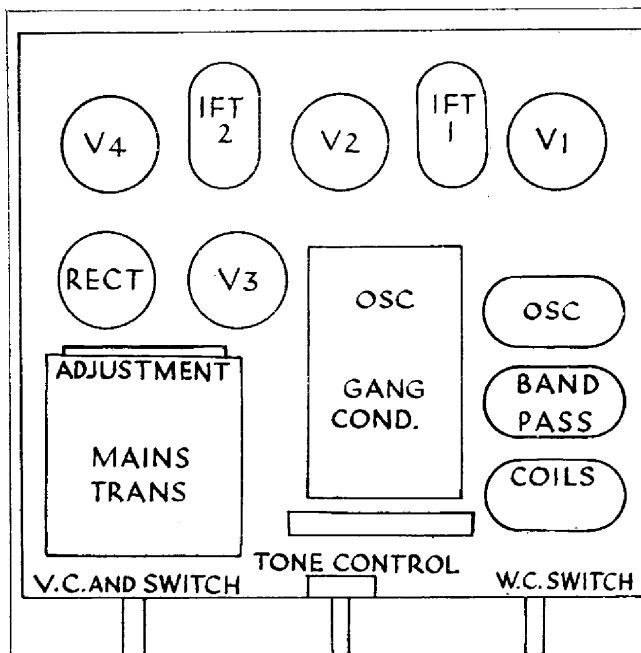
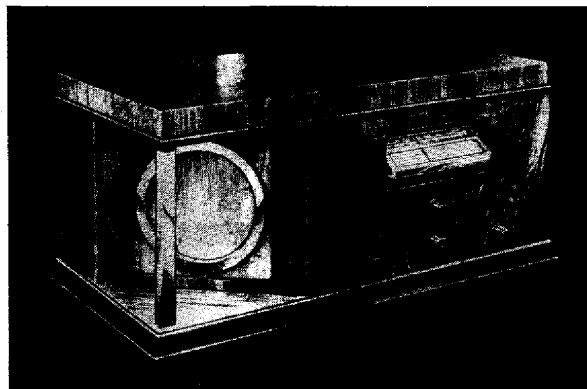
Quick Tests.—The only accessible high voltage points are the green L.S. field terminals on the mains adjustment panel behind the rectifying valve. The voltage between

chassis and the outer terminal (H.T. unsmoothed) should be 390 volts, and the inner 240 volts, which is approximately the voltage at the anode of V2.

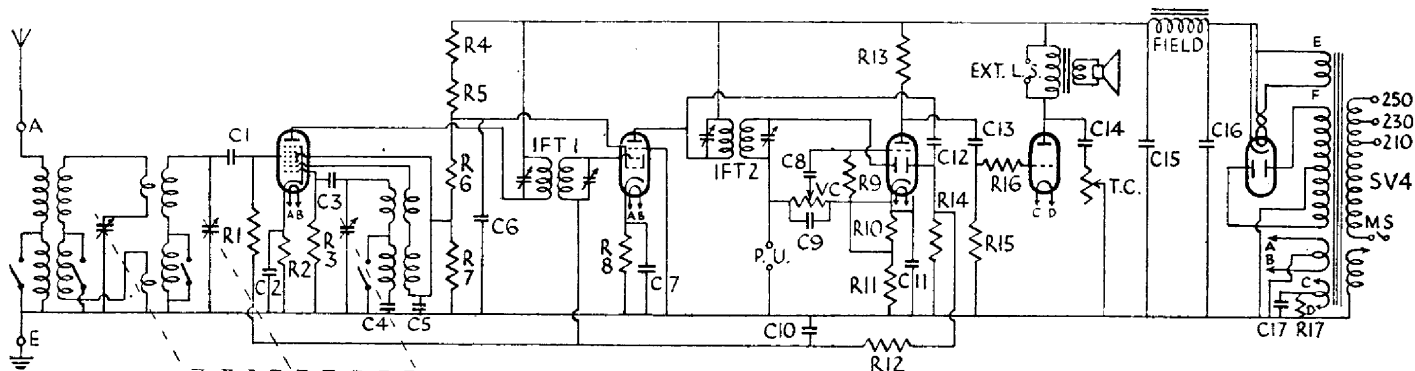
Removing the Chassis.—Remove knobs (grub screw) and press the top of the adjustable dial back far enough to allow the bottom corners to clear the projections on the escutcheon.

Remove three cheese-headed screws underneath and lift the chassis out clear of the door stop at the back.

General Notes.—V4 has a separate heater winding and is biased by R.17. The dial assembly is supported on two hollow



On the left is the layout diagram of the top of the chassis of the Atlas 758. Assembly construction results in the clean arrangement below "deck" shown on the right.



An octode frequency changer is used in the 758, and another interesting feature is the fitting of an output triode in place of the usual pentode. As a whole, the circuit is orthodox.

ATLAS 758 A.C. MAINS SUPERHET (Cont.)

pivots which allow the cord to pass through the centre of rotation. The cord connection is straightforward—each end goes half round the drum, one end being attached to the coil spring.

The pointer is clipped on to the cord and can be reached from the front by undoing the two screws at the sides of the plated surround. In replacing this remember the

two distance pieces round the screws. The pilot lamp holder lifts upwards.

Underneath the chassis the components are well spaced and connections to the assemblies should be easy to follow.

Switch contacts are towards the underside,

and can be cleaned easily with a cloth. (Do not use any gritty material).

Replacing Chassis.—See that dial is in the position nearest to horizontal, and then lay chassis inside cabinet. Replace holding screws and knobs.

Make sure that the L.S. field plugs have not been pulled from the sockets.

VALVE READINGS

No signal

Valve	Type	Electrode.	Volts	M.a.
1	FC4	anode ...	234	.9
		aux. grid ...	65	
		osc. anode ...	65	1.9
2	VP4	anode ...	138	4.8
		aux. grid ...	108	
3	TDD4	Tri. anode ...	114	1.4
4	ACO44	anode ...	230	43

RESISTANCES

R	Purpose.	Ohms.
1	V1 grid leak ...	2 meg.
2	V1 cathode bias...	250
3	V1 osc. grid leak ...	20,000
4		6,000
5	H.T. potentiometer ...	7,000
6		4,000
7		30,000
8		250
9	V2 cathode bias...	2 meg.
10	V3 grid leak ...	2,000
11	V3 cathode bias on radio	
	V3 cathode bias on gram (series with R10) ...	5,000
12	Decoupling A.V.C. line...	2 meg.
13	V3 anode L.F. coupling	75,000
14	A.V.C. diode load ...	1 meg.
15	V4 grid leak ...	1 meg.
16	V4 grid stabiliser25 meg.
17	V4 bias ...	500
	Field coil ...	1,125

CONDENSERS

C	Purpose.	Mfd.
1	V1 pentode grid...	.0001
2	V1 cathode1
3	V1 osc. grid001
4	Var. L.W. tracking on osc.	variable
5	Osc. anode decoupling25
6	V2 aux. grid1
7	V2 cathode1
8	L.F. coupling to V3 grid	.01
9	H.F. by-pass from diode anode	.0002
10	Decoupling A.V.C. line...	.05
11	V3 cathode5
12	L.F. feed to A.V.C. diode anode	.0002
13	L.F. coupling V3 to V4	.01
14	Tone control circuit V4 anode	.25
15	H.T. smoothing ...	6 el.
16	" " " " " "	10 el.
17	Across V4 bias resistance	25 el.